REMARKS

The Applicant appreciates the thorough review of the application and the indicated allowability of claims 5-8 by the Examiner.

Reconsideration and allowance of claims 1-4 are requested.

No new matter has been added by the amendments. No new issues are raised by the amendments. The claims have been amended as suggested by the Examiner.

Claims 5-8 are allowable.

Claims 5-7 have been made independent, placing them in condition for allowance. Claim 8 depends on Claim 7.

Claim 1 has been amended to put the words "weaving machine" in the body of the claim and give them patentable weight.

Claims 1 - 4 are patentable under 35 U.S.C. 102(b) over Bowen et al. (U.S. Patent No. 4,476,900).

Claim 1 is patentable over Bowen '900 under 35 U.S.C. 102(b) and 103 because Bowen '900 does not teach or suggest all of the elements of the claim. Bowen '900 does not teach or suggest joining two parts by means of processes which do not change the cross-section of the parts. Bowen '900 discloses that layers A and B, cited by the examiner, are secured together under pressure and heated to cause the B layer to melt and stick to the outer layer A (Col. 3, lines 4-10). This pressurized melting process will change the cross section of at least the B layer, which is melted and deformed. Additionally, it is a stretch to call two layers of a sandwich material separate "parts." Therefore Claim 1 is patentable under 35 U.S.C. 102(b) over Bowen '900.

Claims 1 - 4 are patentable under 35 U.S.C. 102(b) over Bowen et al. (U.S. Patent No. 4,508,145).

Claim 1 is patentable over Bowen '145 under 35 U.S.C. 102(b) and 103 because Bowen '145 does not teach or suggest all of the elements of the claim. Bowen '145 does not teach or suggest joining two parts by means of processes which do not change the cross-section of the parts. Bowen '145 teaches a method of constructing a heddle frame slat where two parts are connected either by deformation of one part (Figs. 3a, 3b) or by rivets (Figs. 8, 8a). Either of these methods will change the cross-section of at least one of the parts. The deformation shown in Figs. 3a and 3b clearly changes the cross section of the part. A rivet requires a hole to be put through both parts, also changing the cross sections of the parts. Therefore Claim 1 is patentable under 35 U.S.C. 102(b) over Bowen '145.

Claims 1 - 4 are patentable under 35 U.S.C. 102(b) over Sos et al. (U.S. Patent No. 4,817,399).

Claims 1 and 3 are patentable over Sos under 35 U.S.C. 102(b) and 103 because Sos does not teach or suggest all of the elements of the claims. Sos does not teach or suggest joining two parts by means of processes which do not change the cross-section of the parts. Sos teaches only a method of constructing a stamped knitting tool by welding together two pieces. Welding will cause beading and lumps on the outside of a part that alter its cross section. This effect is something the present invention specifically seeks to avoid, as noted in the applicant's specification.

Claims 1 - 4 are patentable under 35 U.S.C. 103(a) over Krzys et al. (U.S. Patent No. 5,828,032).

Claims 1 and 3 are patentable over Krzys under 35 U.S.C. 102(b) and 103 because Krzys does not teach or suggest all of the elements of the claim. Krzys does not teach or suggest a method for manufacturing weaving machine parts or for joining two parts by means of processes which do not change the cross-section of the parts. Krzys teaches only a method of welding two metal blanks and is not analogous art. In addition, welding will cause beading and lumps on the outside of a part that alter its cross section. This effect is something the present invention specifically seeks to avoid, as noted in the applicant's specification.

Claims 1 and 3 are patentable under 35 U.S.C. 102(b) over Wagner et al. (U.S. Patent No. 5,809,647).

Claim 1 describes a method for manufacturing weaving machine components that appear in a weaving machine and are made in one piece. The method includes one or more first and second parts, said parts being manufactured in separate first and second parts and being joined together to form a whole by means of processes which practically do not change the cross-section of said parts. The first and second parts have different mechanical and/or magnetic and/or tribological properties; and/or a different manufacturing method; and/or different shape properties according to their functional requirements in the component.

Wagner discloses a process for manufacturing ribbed tubing. A stainless steel tube is ribbed by wrapping a copper strip helically around the tube. Laser heating is applied to the steel tube and the copper strip is bonded to the outside of the steel tube upon solidification of the melted tube material. The copper strip is placed such that a small surface area is bonded to the

steel tube and a large surface area extends radially outward from the steel tube for heat exchange purposes.

The creation of a ribbed tube in Wagner does not anticipate the Applicant's novel invention.

Claim 1 of the Applicant's invention is a method of manufacturing weaving machine components. A method for manufacturing a ribbed tube does not anticipate a method for manufacturing weaving machine components.

Furthermore, Claim 1 describes components "joined together to form a whole by means of processes which practically do not change the cross-section of said parts". In order for the Applicant to accomplish the joining, the first and second parts must be joined lengthwise or linearly. In contrast, the ribbed tubes of Wagner are created by joining a copper strip perpendicular to an outer surface of the steel tube. The joining in Wagner increases the cross section of the individual parts, primarily the steel tubing. Wagner cannot join parts without increasing the individual cross sections of the parts. Therefore, Wagner does not anticipate claim 1 of the Applicant's invention.

In fact, Wagner must increase cross sectional area in order to function as a heat exchanger. One of the key features of Wagner is the increase in cross sectional area for transferring heat. If the components of Wagner were joined lengthwise or end to end, the ribbed tubing would not function in a useful manner. Wagner cannot function by joining components without increasing cross sectional area of the elements.

The Applicant's invention is used to create weaving machine components. The components of the invention are not intended to function as heat exchangers like the devices in Wagner. The components created by the Applicant's invention do not have increased cross

sectional dimensions. The components are attached in a linear fashion to overcome the deficiencies in previous devices. (See, for example, specification pages 1 - 2). Previous devices necessarily were manufactured with materials that were not ideal for each section of the entire component. Because each segment of a component requires different material properties, a balance must be struck to select a material that would function adequately. However, by selecting a material that will work in all zones, not all of the zones receive ideal materials. The Applicant's invention overcomes this limitation by joining components in a linear direction with ideal materials at each individual segment of a larger component.

Therefore, claim 1 is patentable over Wagner.

Claim 3 is dependent on independent claim 1. Claim 3 adds to the patentable features of claim 1 that said first and second parts are joined together by resistance welding or laser beam welding. This is not found in Wagner.

Therefore, claims 1 and 3 are patentable over Wagner.

Claim 1 is patentable under 35 U.S.C. 102(b) over Bowen et al. (U.S. Patent No. 4,404,995).

Claim 1 describes a method for manufacturing weaving machine components that appear in a weaving machine and are made in one piece. The method includes one or more first and second parts, said parts being manufactured in separate first and second parts and being joined together to form a whole by means of processes which practically do not change the cross-section of said parts. The first and second parts have different mechanical and/or magnetic and/or tribological properties; and/or a different manufacturing method; and/or different shape properties according to their functional requirements in the component.

Bowen describes a heddle frame assembly and method for a weaving loom. Stainless steel studs (24) are welded to heddle rods (20) or (22) at spaced intervals. The studs (24) have pointed ends for use during traditional welding. The heddle frame is then assembled.

The creation of a heddle frame in Bowen does not anticipate the Applicant's novel invention.

The Claim 1 components are "joined together to form a whole by means of processes which practically do not change the cross-section of said parts". The Bowen parts are joined with rivets and are welded. Both of these joining methods will alter the cross section of the parts. In addition, in order for the Applicant to accomplish the joining, the first and second parts must be joined lengthwise or linearly. In contrast, the heddle frames of Bowen are created by joining the studs perpendicular to the heddle rods. The joining in Bowen increases the cross section of the individual parts, in particular the heddle rods. Bowen cannot join parts without increasing the individual cross sections of the parts. Therefore, Bowen does not anticipate claim 1 of the Applicant's invention.

In fact, Bowen must increase cross sectional area in order to create a complete heddle frame with attached studs for combining different elements of the complete heddle frame. One of the key features of Bowen is the increase in cross sectional area of the heddle rods with the studs so that the slats may be attached. If the components of Bowen were joined lengthwise or end to end, the heddle rods would not function in a useful manner. Bowen cannot function by joining components without increasing cross sectional area of the elements.

The Applicant's invention is used to create weaving machines. The components of Claim 1 are not intended to function as mounting studs like the devices in Wagner. The components created by the Applicant's invention do not have increased cross sectional dimensions. The

components are attached in a linear fashion to overcome the deficiencies in previous devices. (See, for example, specification pages 1 - 2). Previous devices necessarily were manufactured with materials that were not ideal for each section of the entire component. Because each segment of a component requires different material properties, a balance must be struck to select a material that would function adequately. However, by selecting a material that will work in all zones, not all of the zones receive ideal materials. The Applicant's invention overcomes this limitation by joining components in a linear direction with ideal materials at each individual segment of a larger component.

Therefore, claim 1 is patentable over Bowen.

Claim 2 is patentable under 35 U.S.C. 103(a) over Sos et al. (U.S. Patent No. 4,817,399) in view of Ferrara (U.S. Patent No. 3,464,163).

Claim 2 is dependent on independent claim 1. Claim 1 is patentable over Sos as described above. Ferrara teaches a vibratory finishing machine, and so does not teach or suggest joining two parts by means of processes which do not change the cross-section of the parts either. Claims 1 and 2 are therefore patentable under 35 U.S.C. 103(a) over Sos in view of Ferrara.

Claim 2 adds to the patentable features of claim 1 that finishing the parts requiring the most expensive and/or labor-intensive manufacturing method is done by a vibrating drum. Ferrara teaches a vibratory finishing machine. The mere existence of an apparatus does not suggest its use in every application. There must be some suggestion or motivation to cause a person of ordinary skill in the art to combine the teachings of two references. There are many

ways to finish manufactured parts. Nothing in Ferrara suggests the use of his finishing machine for the most expensive and/or labor intensive parts of a weaving machine.

In addition, the combination of the two references would destroy one of them. The knitting tool of Sos (see Fig. 1) is long and narrow and not suitable for vibratory drum finishing. Therefore no person of ordinary skill in the art would think to or could combine the two references. Claim 2 is therefore patentable under 35 U.S.C. 103(a) over Sos in view of Ferrara.

Claim 3 is patentable under 35 U.S.C. 103(a) over Bowen et al. (U.S. Patent No. 4,404,995) in view of Baumann (U.S. Patent No. 5,297,589).

Claim 3 is dependent on independent claim 1. Claim 1 is patentable over Bowen '995 as described above. Baumann teaches joining parts by welding, rivets, or screws, and so does not teach or suggest joining two parts by means of processes which do not change the cross-section of the parts either. Claims 1 and 3 are therefore patentable under 35 U.S.C. 103(a) over Sos in view of Ferrara.

Claim 3 adds to the patentable features of Claim 1 that the first and second parts are joined together by resistance welding or laser beam welding. Baumann teaches that laser welding is appropriate for connecting each thin side wall of sheet metal of his invention to its confronting reinforcing wall because of the precision welding course required (Col. 3, line 64 to Col. 4, line 2). Baumann also teaches that welding, rivets, or screws may be used to join the parts of an insert in his apparatus (Col. 4 lines 3-4). Baumann does not teach the use of welding in the manufacture of the weaving machine components described in Claim 1 of the present invention, nor does it suggest such a use, nor does a combination or Baumann with Bowen '995.

Claims 1 and 3 are patentable under 35 U.S.C. 103(a) over Bowen '995 in view of Baumann because neither reference, alone or in combination, teaches or suggests all of the elements of Claim 1 or 3.

Claim 4 is patentable under 35 U.S.C. 103(a) over Bowen et al. (U.S. Patent No. 4,476,900).

Claim 4 is dependent on independent claim 1. Claim 1 is patentable over Bowen '900 as described above. Claims 1 and 4 are therefore patentable under 35 U.S.C. 103(a) over Bowen '900.

Claim 4 adds to the patentable features of Claim 1 that the parts requiring the most expensive and/or labor-intensive manufacturing method have a length which is shorter than 0.3 meters and the entire components have a length situated between about 0.4 and 2 meters. This would not have been a matter of design choice. The case law cited by the examiner makes clear the patentability of Claim 4. In re Gardner v. Tec Systems, Inc., stands for the following rule: "artificial dimensional limitations that add nothing to the claims, that are of no constructive significance, and are essentially meaningless... these claim[limitations] are irrelevant." In re Gardner, 220 USPQ at 783.

However, the dimensional limitations of the present invention, found in Claim 4, are significant, meaningful, and relevant. The size limitation is essential to the functioning of the present invention, unlike the claimed invention in In re Gardner. Id. at 783. A primary motivation for the present invention is to reduce the expense of manufacturing weaving machines. At larger dimensions than those indicated in Claim 4, it becomes impossible to use cheaper methods of manufacture and finishing. This limitation is therefore of primary importance and far from irrelevant.

Claim 4 is patentable under 35 U.S.C. 103(a) over Bowen et al. (U.S. Patent No. 4,404,995).

Claim 4 is dependent on independent claim 1. Claim 1 is patentable over Bowen '995 as described above. Claim 4 adds to the patentable features of claim 1 that the parts requiring the most expensive and/or labor-intensive manufacturing method have a length which is shorter than 0.3 meters and the entire components have a length situated between about 0.4 and 2 meters.

This would not have been a matter of design choice, as discussed above.

Therefore, claim 4 is patentable over Bowen '995.

CONCLUSION

Reconsideration and allowance are respectfully requested.

Respectfully,

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